

# Case Study: Lamb's Farm - Libertyville, IL

## Background

Lambs Farm, located in Libertyville, is a non-profit organization serving adults with developmental disabilities. At Lambs Farm, families gather to enjoy shops and attractions, community groups and businesses hold meetings and picnics, and the public enjoys numerous special events.

The Lambs Farm sign is clearly visible from Interstate 94, offering them an outstanding opportunity to advertise events and services to thousands of people driving past their doors every day. The incandescent sign that had served Lambs Farm for several years was in poor condition. Dim bulbs and outages resulted in hard to read messages. Due to the age of the sign, maintenance and electricity costs were continually rising.

## Technology Comparison

Incandescent bulbs have a short life when compared to newer technologies. Vibration has a damaging effect on them. And, over time, in many incandescents, the inside of the glass bulb becomes blackened by an aging filament, cutting down the light output.

Incandescent lamps are particularly sensitive to voltage that varies even slightly above the norm. Operating an incandescent light at just 5% over design voltage reduces the life of the bulb by 44%. At 10% over design voltage bulb life is reduced by 68%.

LEDs make very efficient use of the electrical energy that powers them, significantly better than the traditional incandescents they replace. They also run much cooler and do not fail due to heat buildup. LED's run cooler because they don't have to heat a filament. Incandescents waste 95% of their current draw generating heat not light.

LEDs have an expected life of 100,000 hours.

## Solution

The 16x80 LED display was specifically designed for maximum visibility along highways, highly elevated installations, or any application requiring long distance visibility. The upgrade from an incandescent to LED sign will have an immediate and significant impact on Lambs Farm's energy consumption.

With an estimated annual savings of \$17,000 in energy bills plus an additional savings of \$2,500 to \$3,000 in service and bulb replacement costs, the sign will pay for itself within 2 years.



## Project Overview

### End User

Lambs Farm

### Project Site

Libertyville, Illinois

### Project Scope

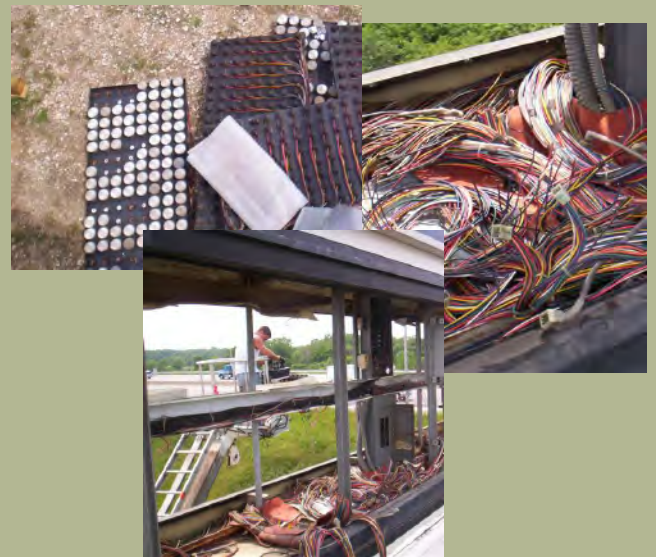
Retrofit existing incandescent message display to large-pixel format LED display

### Estimated Annual Energy Savings

\$17,000 annually in energy costs plus an estimated \$2,500 to \$3,000 in lamp replacement and service costs

### Estimated Payback Period

1-2 years, or a 50+% return on investment (from combined energy and maintenance savings)



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